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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,984	05/04/2001	Zhicheng Hu	3706C (CON)	1807

7590

05/19/2003

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EXAMINER

STRICKLAND, JONAS N

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 05/19/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,984

Applicant(s)

HU ET AL:

Examiner

Jonas N Strickland

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 20-28, 31 and 33-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 20-28, 31 and 33-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1- ☐ Certified copies of the priority documents have been received.
- 2- ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Detailed Action is in response to the petition and amendment filed on 1/28/03 as Paper No. 11. Claims 1-18, 20-28, 31, and 33-40 are currently pending. Claims 19, 29, 30, 32, and 41-43 have been cancelled. The Applicant has amended claims 1, 20, 31, 33-36 and 39.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-18, 20-28, 31, and 33-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burk et al. (US Patent 6,171,556 B1) in view of Hu et al. (US Patent 5,597,771).

Applicant claims an article comprising a gasoline engine having an exhaust outlet; and a close-coupled catalyst located less than about one foot from the engine and in communication with the exhaust outlet to be exposed to temperature up to at least 920°C, the close-coupled catalyst comprising a close-coupled catalyst composition having substantially no oxygen storage components, the catalyst composition comprising: a support; a palladium component.

Burk et al. discloses a method and apparatus for treating an engine exhaust gas stream for minimizes noxious emissions from an engine exhaust gas stream during the

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cold-start operation of an internal combustion engine. The present invention is comprised of a first catalyst zone is disposed in gas flow communication with the engine to receive exhaust gases from the engine. The first catalyst zone contains a catalyst to effectively convert at least some of the pollutants. The catalyst generally is comprised of platinum, alumina and zirconia (col. 6, lines 23-44). The support is comprised of activated alumina (col. 6, lines 56-60). Burk et al continues to teach wherein the support is made of a honeycomb monolith (col. 12, lines 4-10), with respect to claims 9 and 10. Burk et al. teaches wherein the honeycomb monoliths may dispose the inlets and outlets of respective first and second catalytic zones (col. 12, lines 34-36). With respect to claims 17 and 36, Burk et al. teaches wherein the downstream catalyst may be a three-way catalyst (col. 4, lines 5-7). With respect to claim 18, Burk et al. teaches wherein the three-way catalyst zone may have an oxygen storage component (col. 17, lines 62-66). Burk et al. teaches wherein the oxygen storage component is comprised of cerium components. Burk et al continues to teach passing an exhaust gas comprised of carbon monoxide, and hydrocarbons, with respect to claim 20-23 (col. 3, line 60 – col. 4, line 7). However, Burk et al. does not disclose wherein the exhaust gas is exposed to temperatures up to at least 920°C.

However, Hu et al. teaches a layered catalyst composite with the ability to catalyze the oxidation of hydrocarbons and carbon monoxide. The catalyst is comprised of a first layer and a second layer. The second layer is comprised of a zirconium component (see abstract). The composition is thermally stable up to 900°C or more (col. 7, lines 31-33). The first and/or second layers may optionally comprise an

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oxygen storage component (col. 8, lines 58-60). The catalyst may also comprise strontium oxide, calcium oxide, and barium oxide (col. 10, lines 17-20). With respect to claims 11-16 see col. 16, line 53 – col. 11, line 40).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Burk et al. based on the teachings of Hu et al., by using a catalyst composition as taught by Hu et al., which is also useful for treating hydrocarbons and carbon monoxide. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art would expect a process for treating hydrocarbons and carbon monoxide as taught by Hu et al., to be similarly useful and applicable to a process for treating hydrocarbons and carbon monoxide as taught by Burk et al.

With respect to the limitation of claims 1 and 20 wherein the close coupled catalyst is located less than about one foot from the engine and in communication with the exhaust, it would have been obvious to one of ordinary skill in the art to expect the close coupled catalyst to be located less than about one foot, because it is known in the art that the exhaust gas will cool, before it comes in contact with the catalyst, therefore it would have been obvious to have the exhaust gas from the engine to come in close contact with the catalyst.

With respect to claim 34, Burk et al discloses wherein the metal may comprise platinum and rhodium (col. 6, lines 40-41). With respect to claim 35, Burk et al. discloses a flow-through canister (col. 10, line 12).

With respect to claims 24-27, Burk et al. it would have been inherent to expect to achieve the desired percentage of carbon monoxide passing into the closed catalyst, since Burk et al. discloses the instantly claimed article.

Response to Arguments

Applicant's arguments with respect to claims 1-18, 20-28, 31, and 33-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH. 7:30-5:00, off 1st Friday.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.



Jonas N. Strickland
May 14, 2003



WAYNE A. LANGEL
PRIMARY EXAMINER
